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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EYAL TRACHTMAN
and JOHNNY NEMES

Appeal 2009-0674
Application 10/021,249
Technology Center 2600

Decided:¹ May 8, 2009

Before KENNETH W. HAIRSTON, JOHN A. JEFFERY, and
THOMAS S. HAHN, *Administrative Patent Judges*.

HAHN, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejections of claims 1, 3-21, 23, and 24. We have jurisdiction under 35 U.S.C. § 6(b). We affirm-in-part.

STATEMENT OF THE CASE

Appellants invented a method and apparatus for receiving and processing combined broadcast, e.g., television, and communications, e.g., Internet, channel signals. Received combined signals are input to a splitter or decoder that separates the broadcast from the communications signals. The communications and broadcast signals may be separated as different frequency signals.² Claims 1 and 11, with key disputed limitations emphasized, are illustrative:

1. Apparatus for receiving signals transmitted by a satellite, including:
 - a. an antenna for receiving said signals;
 - b. a communications demodulator, connected to said antenna, for demodulating one or more communications channels among said signals; and
 - c. a broadcast demodulator, separate from said communications demodulator and connected to said antenna, for demodulating one or more broadcast channels among said signals,wherein said one or more *communications channels are separate in frequency from said broadcast channels*, and the apparatus further includes *a frequency splitter for separating said communications channels and said broadcast channels*, directing the separated communications channels to said communications demodulator, and directing the separated broadcast channels to said broadcast demodulator.

² See generally Spec. 1:2-5; 2:3-10; 4:6-5:30; Figs. 2, 4.

11. A system for providing broadcasts to aircraft comprising transmitting means for transmitting broadcast signals in a broadcast channel to an aircraft, receiving means for receiving said broadcast signals on the aircraft and decoding means for decoding said broadcast signals, in which the transmitting means and the receiving means additionally transmit and receive communications signals in a separate channel, the *decoding means acting to separate the broadcast signals from the communications signals*, wherein the decoding means further acts to direct the separated broadcast signals and separated communications signals to a broadcast signal demodulator and a communications signal demodulator respectively.

The Examiner relies on the following prior art references to show unpatentability:

Otten	US 6,522,865 B1	Feb. 18, 2003 (filed Aug. 10, 1999)
Mitchell	US 6,741,841 B1	May 25, 2004 (filed Jan. 28, 2000)

The Examiner rejected claims 1, 3-21, 23, and 24 under 35 U.S.C. § 103(a) as unpatentable over Mitchell and Otten (Ans. 3-7).

Rather than repeat the arguments of Appellants or of the Examiner, we refer to the Briefs and the Answer³ for their respective details. In this decision, we have considered only those arguments actually made by Appellants. Arguments that Appellants could have made but did not make

³ We refer throughout this opinion to (1) the Appeal Brief filed Mar. 19, 2007; (2) the Answer mailed June 7, 2007; and (3) the Reply Brief filed Aug. 7, 2007.

in their Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants' Arguments

Appellants argue that (1) “neither reference discloses how television signals are combined with Internet signals” (App. Br. 8); (2) the Mitchell disclosed “‘splitter’ . . . does not separate television programming signals and Internet service signals[, but] [r]ather . . . discloses that the same signal is present at all outputs of the ‘splitter’” (App. Br. 7); and (3) “the Otten patent discloses a splitter that is capable of separating television signals from Internet signals (see column 8, lines 6 to 14), but does not disclose that this is a frequency splitter or that television signals are separate in frequency from Internet signals” (App. Br. 9).

ISSUE

Have Appellants shown the Examiner erred in combining references under § 103 to arrive at the claimed invention? The issue turns on whether (1) appealed claims recite frequency separation between communications and broadcast signals, (2) the references teach or suggest transmitting combined communications and broadcast signals that are separated in frequency, and (3) the references teach or suggest a splitter or decoder that outputs separated communications and broadcast signals.

FINDINGS OF FACT

The record supports the following Findings of Fact (FF) by a preponderance of the evidence:

1. Mitchell discloses a method and system for transmitting combined entertainment, e.g., television, and office, e.g., Internet, signals to a mobile platform where the combined signals are processed (Mitchell, col. 1, ll. 22-39; col. 23, ll. 35-40).
2. Mitchell discloses a system for satellite transmission of combined television and Internet signals to an aircraft mounted antenna. The received combined television and Internet signals are input to a splitter. Mitchell's splitter "outputs contain both television programming signals and the Internet service." These splitter output combined signals are input to a television receiver and an Internet receiver (Mitchell, col. 6, ll. 4-8; col. 25, ll. 7-10, 57-67; Figs. 11, 13).
3. Otten discloses a communication system that uses a satellite based transmitter to send combined television and Internet signals to a terrestrial station. The Otten disclosed system utilizes a satellite "downlink signal 30 [that] includes both television signals 52 and Internet signals 54" sent to a Direct Broadcast System (DBS) "receiver [that] includes a splitter which separates the TV signals 52 and Internet signals 54 for transmission to respective television 56 and computer 1" (Otten, col. 2, ll. 53-67; col. 8, ll. 1-14; Fig. 6 (reproduced below for reference)).

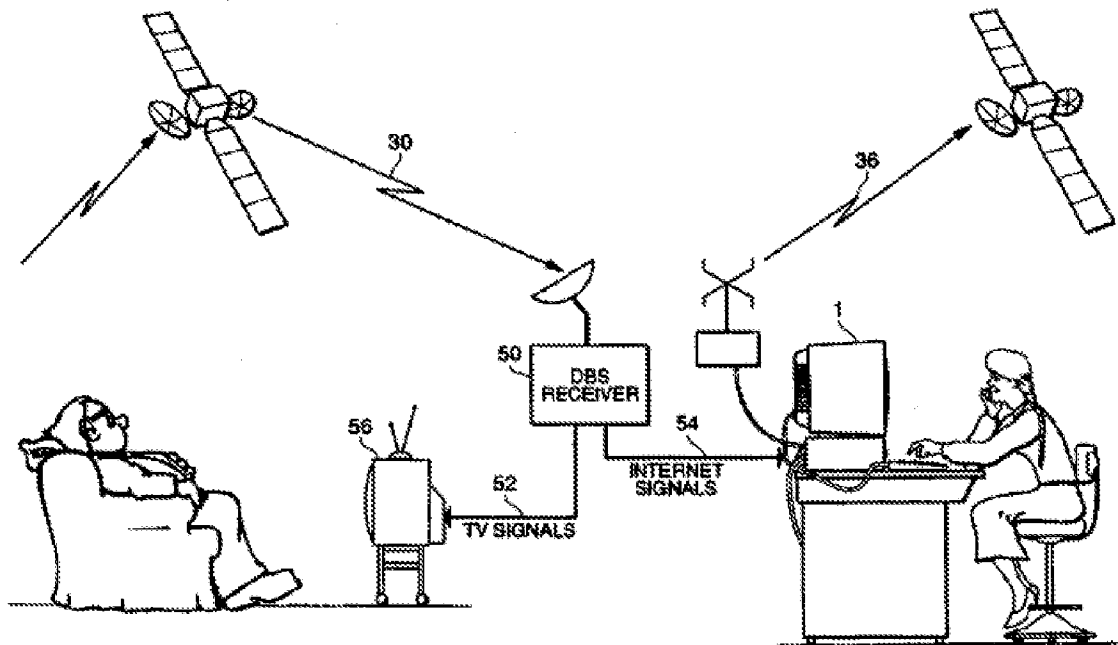


FIG. 6

Reproduction of Otten's Figure 6 Showing Transmission of Combined Signals 30 and Separated TV Signals 52 and Internet Signals 54

4. Separation of television signals from Internet signals by the Otten splitter "can be accomplished by those skilled in the art and is not discussed further . . ." by Otten (Otten, col. 8, ll. 10-12).

PRINCIPLES OF LAW

An Examiner rejecting claims under 35 U.S.C. § 103 must establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S.

1, 17 (1966). Among these factual determinations is ascertaining differences between prior art and claims at issue (*id.*).

During examination of a patent application, a claim is given its broadest reasonable construction “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (citation omitted) (internal quotation marks omitted).

Recited elements for a claimed apparatus can be defined structurally or functionally, i.e., by what the element does. *In re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir. 1997). A claimed apparatus, however, is only distinguishable from prior art in terms of structure, not function. *Id.* at 1477-78. “[A]pparatus claims cover what a device is, not what a device does.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1468 (Fed. Cir. 1990) (emphasis omitted).

The question of obviousness of claimed subject matter involving a combination of known elements is addressed in *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), which explains:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida* [*v. AG Pro, Inc.*, 425 U.S. 273 (1976)] and *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57 (1969)] are illustrative—a court must ask whether the improvement is more

than the predictable use of prior art elements according to their established functions.

KSR, 550 U.S. at 417.

If the claimed subject matter cannot be fairly characterized as involving the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement, a holding of obviousness can be based on a showing that “there was an apparent reason to combine the known elements in the fashion claimed.” *Id.* at 418. Such a showing requires

‘some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness’. . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

Id. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

ANALYSIS

Claims 1, 3-10, 23, and 24

Based on the record, we will not sustain the Examiner’s rejection of representative apparatus claim 1.⁴ This claim recites in pertinent part receiving signals that include “one or more communications channels . . . separate in frequency from . . . broadcast channels,” and also covers “a

⁴ Appellants direct arguments to independent claim 1, and the dependent claims 3-10, 23, and 24 of the group are not separately argued (App. Br. 7-9). Accordingly, we select independent claim 1 as representative of this group. See 37 C.F.R. § 41.37 (c)(1)(vii).

frequency splitter for separating said communications channels and said broadcast channels.”

Appellants attack the references by arguing that “neither [Mitchell nor Otten] discloses how television signals are combined with Internet signals” (App. Br. 8). Further, Appellants argue that the Mitchell splitter “does not separate television programming signals and Internet service signals,” but instead “discloses that the same signal is present at all outputs of the splitter” (App. Br. 7 (internal quotation marks omitted)). We concur that the Mitchell splitter outputs contain *both television programming signals and Internet signals* (FF 2). Therefore, by inputting and also outputting the same combined signals, the Mitchell splitter is not taught or suggested to be a frequency splitter, but instead is a device for portioning the input signal among several outputs.

With respect to Otten, Appellants acknowledge that the “patent discloses a splitter that is capable of separating television signals from Internet signals (see column 8, lines 6 to 14), but does not disclose that this is a frequency splitter or that television signals are separate in frequency from Internet signals” (App. Br. 9). Otten, we concur, discloses a receiver having a splitter that separates combined television and Internet signals, and provides the separated television signals at one splitter output, and the separated Internet signals at another splitter output (FF 3). The disclosed use of the Otten splitter for separation of combined television and Internet signals does not include a teaching or suggestion as to *how* the splitter separates signals.

Turning to the claimed “frequency splitter for separating said communications channels and said broadcast channels,” it is seen to be

recited in structure and function format. The “frequency splitter” is structure, and the remainder is function. Therefore, only the claimed “frequency splitter” is available to provide a patentable difference from the references, and not the functionally recited separating channels. *Schreiber*, 128 F.3d at 1477-78.

The Examiner responds to Appellants’ assertion of Otten not disclosing a frequency splitter with a dictionary “definition for splitting,”⁵ and contends that a “splitter [is] well known in the art [and] is used to separate frequency signals into different frequency bands” (Ans. 12).

Appellants, however, argue “that neither reference discloses how [its] television signals are combined with Internet signals” (App. Br. 8), and we concur that both references are silent as to how television and Internet signals are combined.⁶ In view of Otten being silent as to how signals are combined or separated, we are not persuaded by the Examiner concluding, without some basis in the record, that the Otten splitter “is used to separate frequency signals into different frequency bands” (Ans. 12).

In particular, what this record includes is a Mitchell splitter that does not separate combined television and Internet signals, and an Otten splitter that does separate combined signals. The Examiner has not identified a teaching or suggestion that Otten combined signals are separated by

⁵ “NEWTON’S TELECOM DICTIONARY . . . : A filter which splits or separates signals on the basis of their transmission frequency” (Ans. 12).

⁶ Otten, for example, discloses that a splitter separates combined signals, without disclosing details of the combination, but with the explanation that the separation “can be accomplished by those skilled in the art and is not discussed further . . .” (FF 4).

frequency and that the Otten splitter, in separating combined signals, is a frequency splitter.

Accordingly, we find nothing in the record before us that either reference or a combination of the references reasonably suggests the claim 1 recited frequency splitter. The Examiner's combination of various reference teachings appears to be speculative, and, therefore, strains reasonable limits. We will not sustain the rejection of claim 1, nor the rejection of claims 3-10, 23, and 24 that fall with claim 1.

Claims 11-19

Representative apparatus claim 11⁷ recites in pertinent part “transmitting means for transmitting broadcast signals . . . [and] communications signals in a separate channel,” and an aircraft based “decoding means acting to separate the broadcast signals from the communications signals.” Based on the record, we are not persuaded that the Examiner erred in rejecting representative claim 11.

Appellants argue that “the Mitchell patent discloses that the same signal is present at all outputs of the ‘splitter,’” and “the Examiner has provided no suggestion or motivation, other than impermissible hindsight based on Appellants’ disclosure, to modify . . . the Mitchell patent [with Otten] to arrive at the claimed invention” (App. Br. 10). Further, Appellants argue that the Examiner’s combination of references lacks a claim 11 recited limitation corresponding to the claim 1 covered “one or more

⁷ Appellants direct arguments to independent claim 11, and the dependent claims 12-19 of the group are not separately argued (App. Br. 10-11). Accordingly, we select independent claim 11 as representative of this group. See 37 C.F.R. § 41.37 (c)(1)(vii).

communications channels are separate in frequency from said broadcast channels” (Reply Br. 3). Reference to claim 11, however, reveals no comparable frequency limited recitation. In fact, “frequency” and “channels [or signals] . . . separate in frequency” or their equivalents are nowhere recited in claim 11. Accordingly, a reasonably broad interpretation of claim 11 recited subject matter, which is silent as to frequency, encompasses at least what is recited, namely “separated broadcast signals and . . . communications signals [directed] to a broadcast signal demodulator and a communications signal demodulator respectively.” As a consequence, we concur with the Examiner that claim 11 reads on Otten teachings for transmission of combined television and Internet signals to a station where a splitter separates the television and Internet signals and directs the television signal to a television and the communications signal to a computer (Ans. 5, 12) (*See* FF 3).

Claim 11 covers “transmitting . . . signals . . . to an aircraft.” While Otten discloses transmission of signals to a terrestrial communications station (FF 3). Mitchell, however, discloses transmission of signals to an aircraft platform. Therefore, as prior art, Mitchell evidences that broadcasting combined television and Internet signals to aircraft communications stations was in the public’s possession before Appellants’ invention (FF 1, 2). Further, an ordinarily skilled artisan would recognize that modifying the Otten terrestrial communications system with an aircraft mounted system is a predictable use of prior art elements according to their established function. *KSR*, 550 U.S. at 417.

We also note that the claim 11 recited “transmitting . . . signals . . . to an aircraft” is non-functional descriptive material that neither structurally

nor functionally limits the claim. After all, it is the recited receiving means and decoding means, not the aircraft that receives and processes transmitted signals. The recited aircraft is not claimed as being interrelated with the covered communications system. Additionally, the recited aircraft is not claimed as being dependent on the covered communications system, or vice versa with respect to the communication system and aircraft.⁸

Consequently, we conclude that the subject matter recited in claim 11 reads on Otten. *See In re Meyer*, 599 F.2d 1026, 1031 (CCPA 1979) (noting that obviousness rejections can be based on references that happen to anticipate the claimed subject matter).

On the record before us, we therefore find that Appellants have not persuasively rebutted the Examiner's prima facie obviousness rejection.

For the foregoing reasons, Appellants have not persuaded us of error in the Examiner's rejection of representative claim 11. Therefore, we will sustain the Examiner's rejection of claim 11, and also the rejection of claims 12-19 that fall with claim 11.

Claim 20

We, however, will not sustain the Examiner's rejection of independent apparatus claim 20, which, in pertinent part, recites "decoding means for separating broadcast data from other data contained within a signal received on-board the aircraft."

⁸ *See In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004); *see also Ex parte Nehls*, 88 USPQ2d 1883, 1887-89 (BPAI 2008) (precedential) (discussing cases pertaining to non-functional descriptive material).

Initially, we note that the disputed limitation constitutes a means-plus-function recitation. Therefore, the limitation must be construed in accord with 35 U.S.C. § 112, ¶ 6 by “look[ing] to the specification and interpret[ing] that language in light of the corresponding structure, material, or acts described therein, and equivalents thereof, to the extent that the specification provides such disclosure.” *In re Donaldson Co., Inc.*, 16 F.3d 1189, 1193 (Fed. Cir. 1994) (en banc).

Appellants refer to pages 4 and 5 of the Specification as corresponding to this means-plus-function limitation, with the recited “decoding means” identified as disclosing a “RF splitter 9” (App. Br. 3). The Specification discussion makes clear that combined communications and broadcast signals are fed to a “radio frequency (RF) splitter 9” from which a separated communications signal is fed to a communications subsystem and a separated broadcast signal is fed to a broadcast receiver (Spec. 4:19-21; 5:3-6; *see also* Fig. 2). In light of the Specification, we therefore construe the claim 20 decoding means-plus-function limitation as encompassing a frequency splitter and equivalents.

The record supports by a preponderance of the evidence that the Mitchell splitter does not separate input combined television and Internet signals (FF 2), and the Otten splitter does separate combined input signals, while being silent as to how input signals are separated (FF 3, 4). The Examiner has not identified a teaching or suggestion that the Otten splitter, in separating combined signals, is a frequency splitter (*see supra* p. 10, 11).

Accordingly, we find nothing in the record before us that reasonably suggests the claim 20 covered frequency splitter. We will not sustain the rejection of claim 20.

Claim 21

We also will not sustain the Examiner's rejection of independent method claim 21, which, in pertinent part, recites "communications data . . . separate in frequency from the broadcast data; . . . [and] separating the broadcast data from the communications data."

Again turning to the references, the record supports by a preponderance of the evidence that the Mitchell splitter does not separate input combined television and Internet signals, i.e., communications and broadcast data (FF 2), and the Otten splitter does separate combined input data signals, while being silent as to how the signals are separated (FF 3, 4). The Examiner has not identified a teaching or suggestion that the Otten splitter, in separating combined data signals, in any way utilizes frequency to accomplish the separation (*see supra* p. 10, 11).

Accordingly, we find nothing in the record before us that reasonably suggests the claim 21 recited separating data having different frequencies. We will not sustain the rejection of claim 21.

CONCLUSIONS OF LAW

Under § 103, Appellants have not shown that the Examiner erred in rejecting claims 11-19.

Appellants, however, have shown that the Examiner erred in rejecting claims 1, 3-10, 20, 21, 23, and 24 under § 103 over Mitchell and Otten.

ORDER

The Examiner's decision rejecting claims 1, 3-21, 23, and 24 is affirmed-in-part.

Appeal 2009-0674
Application 10/021,249

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

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